FIG.1A

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360 180 240 300 88 GCACCAACCATGGCCACGTTTGTGGAGCTCAGTACCAAAGACCAAGATGCCCATTGTGGGGC GCCATCCAAGAGATCCAAGAGAGGCTGTGAAGCGGGGGGACCTGTTCATCGTCAGC CTGGGCACTTGGAAGTCTCCTCTCGGCAAAGTGAAAGAAGCAGTGAAGGTGGCCATTGAT GCAGGATATCGGCACATTGACTGTGCCTATGTCTATCAGAATGAACATGAAGTGGGGGAA AAGTTGTGGCCCCACTTCCAGATCGAGAAGCTCTTGAACAAACCTGGACTGAAATATAAAC AVKVAID MATFVELSTKAKMPIVG ß G Y R H I D C A Y V Y Q N E H E V G E D L F I V L G T W K S P L G K V K E A 'I Q' E K I Q E K A V K R S ĸ S ĸ S Д Ц

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CAGAAAAGCATGGCTTGAATAAGGAAATGACAATTTTTTCCACTTATCTGATCAGAACAA 1020

ATGTTTATTAAGCATCAGAAACTCTGCCAACACTGAGGATGTAAAAGATCAATAAAAAAA 1080

1090

FIG.2A

240 300 420 120 180 360 117 480 9 GCACCAACCATGGCCACGTTTGTGGAGCTCAGTACCAAAGCCAAGATGCCCATTGTGGGC GCCATCCAAGAGATCCAAGAGAGGCTGTGAAGCGGGAGGACCTGTTCATCGTCAGC AAGGACCTGAAGCTGAGCTATCTGGACGTCTATCTTATTCACTGGCCACAGGGATTCAAG GCAGGATATCGGCACATTGACTGTGCCTATGTCTATCAGAATGAACATGAAGTGGGGGAA AAGTIGIGGCCCACTITCTITGAGAGACCCCTTGIGAGGAAAGCCTTIGAGAAGACCTTC CTGGGCACTTGGAAGTCTCCTCTCGGCAAAGTGAAAGAAGCAGTGAAGGTGGCCATTGAT TCTGGGGGATGACCTTTTCCCCCAAAGATGATAAAGGTAATGCCATCGGTGGAAAAGCAACG Ω Н G S ᄓ X DLFIV Н G > K × Э \ Н K ტ × V K V F ىم W P Q G H A Σ G Ŀì × Н × 田 Ø 떠 A Z K × H I D C A Y V Y Q œ œ SYLDVYLI 딥 Z K A V K H P L V K V K S လ × Н 回 G ~ Ω Ŀ. Ŀ ᆸ > × Д ובו Ø Ŀ М KI لعا വ H بتا D L K L 又 ¥ P T Н Y R 凹 3 Σ Õ 3 ₽ Ω ပ G **5** Ø S

FIG.2E

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CATTTTAGCCAAGCTTATTTAAGATCACAGTGAACTTA AGGTGCTGTTTTAGACATTTATTTCTGTATGTTCAACT GCATGCTTGAATAAGGAAATGACAATTTTTTTCCACTT
AGGTGCTGTTTTAGACATTTATTTTCTGTATGTTCAACTAGG GCATGGCTTGAATAAGGAAATGACAATTTTTTTCCACTTATG TTAAGCATCAGAAACTCTGCCAACACTGAGGATGTAAAGA
GCATGGCTTGAATAAGGAAATGACAATTTTTTTCCACTTATCT TTAAGCATCAGAAACTCTGCCAACACTGAGGATGTAAAGATC
TTAAGCATCAGAAACTCTGCCAACACTGAGGATGTAAAGATCA

FIG.3A

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CAAAAACAGCAACAG AAAGCAGGACGTGAG ACTTCTACCTGCTCA CTCAGAATCATTTCT ARLVI CAAAAACAGCAACAG AAAGCAGGACGIGAG ACTICIACCIGCICA CICAGAAICAIIICI CAAAAACAGCAACAG AAAGCAGGACGTGAG ACTTCTACCTGCTCA CTCAGAATCATTTCT ARLV2 ARL

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GCACCAACCATGGCC ACGTTTGTGGAGCTC AGTACCAAAGCCAAG ATGCCCATTGTGGGC ARLV1 GCACCAACCATGGCC ACGTTTGTGGAGCTC AGTACCAAAGCCAAG ATGCCCATTGTGGGC GCACCAACCATGGCC ACGTTTGTGGAGCTC AGTACCAAAGCCAAG ATGCCCATTGTGGGC ARLV2 ARL

121

ARLV1 CTGGGCACTTGGAAG TCTCCTCTCGGCAAA GTGAAAGAAGCAGTG AAGGTGGCCATTGAT CTGGGCACTTGGAAG TCTCCTCTCGGCAAA GTGAAAGAAGCAGTG AAGGTGGCCATTGAT CTGGGCACTTGGAAG TCTCCTCTCGGCAAA GTGAAAGAAGAGCAGTG AAGGTGGCCATTGAT ARLV2 ARL

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TCTGGGGATGACCTT TTCCCCAAAGATGAT AAAGGTAATGCCATC GGTGGAAAAGCAACG TCTGGGGATGACCTT TTCCCCAAAGATGAT AAAGGTAATGCCATC GGTGGAAAAGCAACG		ARLV1 ARLV2 AAGGACCTGAAGCTG ARL AAGGACCTGAAGCTG	AGCTATCTGGACGTC AGCTATCTGGACGTC	AGCTATCTGGACGTC TATCTTATTCACTGG CCACAGGGATTCAAGAGCTATCTGGACTTCAAGGCTATCAAGGCTATCAAGGCATTCAAGGCTATCAAGGCATTCAAGGCTATCAAGGCATTCAAGGCAATTCAAGGCTATCTGGACGTC TATCTTATTCACTGG CCACAGGGATTCAAG	CCACAGGGATTC
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	TTC	TTGGATGCCTGG	GAGGCCATGGAGGAG	CTGGTGGATGAGGGG	CTGG

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--CCAGAIC GAGAAGCICITGAAC AAACCIGGACIGAAA ARLV2 **ARLV1**

GGGGTCTCCAATTTC AGCCACTTCCAGATC GAGAAGCTCTTGAAC AAACCTGGACTGAAA GGGGTCTCCAATTTC AGCCACTTCCAGATC GAGAAGCTCTTGAAC AAACCTGGACTGAAA ARL

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TATAAACCAGTGACT AACCAGGTTGAGTGT CACCCATACCTCACG CAGGAGAAACTGATC TATAAACCAGTGACT AACCAGGTTGAGTGT CACCCATACCTCACG CAGGAGAAACTGATC TATAAACCAGTGACT AACCAGGTTGAGTGT CACCCATACCTCACG CAGGAGAAACTGATC **ARLV1** ARLV2 ARL

661

CAGTACTGCCACTCC AAGGGCATCACCGTT ACGGCCTACAGCCCC CTGGGCTCTCCGGAT ARLV1 CAGTACTGCCACTCC AAGGGCATCACCGTT ACGGCCTACAGCCCC CTGGGCTCTCCGGAT CAGTACTGCCACTCC AAGGGCATCACCGTT ACGGCCTACAGCCCC CTGGGCTCTCCGGAT ARLV2 ARL

FIG.3E

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ARLV1	ARLV1 AGACCTTGGGCCAAG	CCAGAAGACCCTTCC	AAG CCAGAAGACCCTTCC CTGCTGGAGGATCCC AAGATTAAGGAGAT	AAGATTAAGGAGAT
ARLV2	ARLV2 AGACCTTGGGCCAAG CCAGAAGACCCTTCC CTGCTGGAGGATCCC AAGATTAAGGAGAT	CCAGAAGACCCTTCC	CTGCTGGAGGATCCC	AAGATTAAGGAGAT
ARL	AGACCTTGGGCCAAG	CCAGAAGACCCTTCC	AGACCTTGGGCCAAG CCAGAAGACCCTTCC CTGCTGGAGGATCCC AAGATTAAGGAGAT	AAGATTAAGGAGAT

840 GCTGCAAAGCACAAA AAAACCGCAGCCCAG GTTCTGATCCGTTTC CATATCCAGAGAAT ARLV1 GCTGCAAAGCACAAA AAAACCGCAGCCCAG GTTCTGATCCGTTTC CATATCCAGAGGAAT GCTGCAAAGCAC---ARLV2 ARL

900 ARLV1 GTGATTGTCATCCCC AAGTCTGTGACACCA GCACGCATTGTTGAG AACATTCAGGTCTTT -----TCCCC AAGTCTGTGACACCA GCACGCATTGTTGAG AACATTCAGGTCTTT GIGATIGICATCCCC AAGICIGIGACACCA GCACGCATIGITGAG AACATICAGGICTIT 841 ARLV2 ARL

096

ARLV1 GACTTTAAATTGAGT GATGAGGAGATGGCA ACCATACTCAGCTTC AACAGAAACTGGAGG **AACAGAAACTGGAGG** GATGAGGAGATGGCA ACCATACTCAGCTTC GACTTTAAATTGAGT ARLV2

GACTITAAATIGAGI GAIGAGGAGAIGGCA ACCATACICAGCTIC AACAGAAACIGGAGG ARL

1020 961

ARLV1 GCCTGTAACGTGTTG CAATCCTCTTTTG GAAGACTATCCCTTC GATGCAGAATATTGA ARLV2 GCCTGTAACGTGTTG CAATCCTCTCTTTG GAAGACTATCCCTTC GATGCAGAATATTGA GCCTGTAACGTGTTG CAATCCTCTCATTTG GAAGACTATCCCTTC GATGCAGAATATTGA ARL

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GGTTGAATCTCCTGG TGAGATTATACAGGA GATTCTTTCTTCG CTGAAGTGTGACTAC TGAGATTATACAGGA GATTCTCTTTCG CTGAAGTGTGACTAC GGTTGAATCTCCTGG TGAGATTATACAGGA GATTCTTCTTTCG CTGAAGTGTGACTAC GGTTGAATCTCCTGG **ARLV1** ARLV2

ARL

FIG.3G

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CTCCACTCATGTCCC ATTTTAGCCAAGCTT ATTTAAGATCACAGT GAACTTAGTCCTGTT CICCACICATGICCC AITITAGCCAAGCIT AITITAAGAICACAGI GAACITAGICCIGIT CICCACICAIGICCC AITITAGCCAAGCIT AITIAAGAICACAGI GAACIIAGICCIGII **ARLV1** ARLV2 ARL

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ATAGACGAGAATCGA GGTGCTGTTTTAGAC ATTTATTTCTGTATG TTCAACTAGGATCAG ATAGACGAGAATCGA GGTGCTGTTTTAGAC ATTTATTTCTGTATG TTCAACTAGGATCAG ATAGACGAGAATCGA GGTGCTGTTTTAGAC ATTTATTTCTGTATG TTCAACTAGGATCAG ARLV1 ARLV2 ARL

1201

ARLV1 AATATCACAGAAAAG CATGGCTTGAATAAG GAAATGACAATTTTT TCCACTTATCTGATC AATAICACAGAAAAG CAIGGCIIGAATAAG GAAAIGACAATITIT ICCACIIAICIGAIC TCCACTTATCTGATC AATATCACAGAAAAG CATGGCTTGAATAAG GAAATGACAATTTTT ARLV2 ARL

ARLV1 AGAACAAATGTTTAT TAAGCATCAGAAACT CTGCCAACACTGAGG ATGTAAAGATCAATA ARLV2 AGAACAAATGTTTAT TAAGCATCAGAAACT CTGCCAACACTGAGG ATGTAAAGATCAATA AGAACAAATGTTTAT TAAGCATCAGAAACT CTGCCAACACTGAGG ATGTAAAGATCAATA

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1090	1279	1337
AT	AT	AT
AAAAAATAATA	ARLV2 AAAAAAATAATAATC AT	AAAAAATAATAATC AT
ARLV1	ARLV2	ARL

120 ARLVI MATFVELSTKAKMPI VGLGTWKSPLGKVKE AVKVAIDAGYRHIDC AYVYQNEHEVGEAIQ AYVYQNEHEVGEAIQ AYVYQNEHEVGEAIQ KAFEKTLKDLKLSYL DVYLIHWPQGFKSGD VSKLWPTFFERPLVR KAFEKTLKDLKLSYL DVYLIHWPQGFKSGD MATFVELSTKAKMPI VGLGTWKSPLGKVKE AVKVAIDAGYRHIDC AVKVAIDAGYRHIDC VGLGTWKSPLGKVKE VSKIWPT----EKIQEKAVKREDLFI EKIQEKAVKREDLFI EKIQEKAVKREDLFI MATFVELSTKAKMPI 61 ARLV2 ARLV2 **ARLV1** ARL

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ARLV1

VSKLWPTFFERPLVR

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OIEKLLNKPGLKYKP QIEKLLNKPGLKYKP DLFPKDDKGNAIGGK ATFLDAWEAMEELVD EGLVKALGVSNFSHF DLFPKDDKGNAIGGK ATFLDAWEAMEELVD EGLVKALGVSNFSHF ARLV2 ARL

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ARLV1			*** *** *** *** *** *** *** *** *** *** *** *** *** ***	
ARLV2	ARLV2 VTNQVECHPYLTQEK	LIQYCHSKGITVTAY	SPLGSPDRPWAKPED	PSLLEDPKIKEIAAK
ARL	VTNQVECHPYLTQEK	LIQYCHSKGITVTAY	SPLGSPDRPWAKPED	PSLLEDPKIKEIAAK
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ARLV1				
ARLV2 H-	Н			
ARL	HKKTAAQVLIRFHIQ		RNVIVIPKSVTPARI VENIQVFDFKLSDEE MATILSFNRNWRACN	MATILSFNRNWRACN
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ARLV1		-SRSRSS 88		
ARLV2		-SPSL 245		
ARL	VLQSSHLEDYPFDAE	Y 316		